

REMARKS

By the present Amendment, the specification and claim 18 are amended to correct minor typographical errors that do not raise new issues. This leaves claims 11-28 pending in the application, with claim 11 being independent.

Objections to Specification

The substitute specification submitted with the previously filed Amendment is objected to under 35 U.S.C. §132(a) as allegedly introducing “new matter”. Specifically, the description of the shaping tool 42 being “axially movable” is alleged to constitute “new matter” in that the axial movement is not adequately disclosed in the originally filed application. Additionally, a typographical error in the specification is noted.

The substitute specification does not include “new matter” since the axial movement of the shaping tool 42 is inherent from the original specification, and is clear from the originally filed drawings. One skilled in the art upon reviewing the original specification and drawings would readily recognize that the shaping tool does and must move axially to deform first end portion of the housing against the cover 20. This interpretation is particularly true relative to the description in the last paragraph on page 9 relating to the deformation of the opposite ends of the housing. Since the added subject matter is inherent, it may be included by amendment without introducing prohibited new matter, as provided in M.P.E.P. §2163.07(a). Reconsideration and withdrawal of this objection is requested.

The typographical error in the substitute specification is corrected.

Rejections Under 35 U.S.C. §§102 and 103

Claim 11 covers a method for producing a piston accumulator. The method comprises mounting a piston 12 in an accumulator housing 10 for movement along a longitudinal axis 48 of the housing with the piston separating housing interior into two working chambers 16 and 18 between first and second longitudinal ends of the housing. At least a first shoulder 38 is provided in the housing interior adjacent to but spaced from the first housing longitudinal end. A first cover component 20 is inserted at least partially within the housing through the first longitudinal end when open until its inner surface portion 36 engages the first shoulder 38 preventing further insertion of the first cover component. A first end portion of the housing between the first shoulder and the first longitudinal end is deformed at an acute angle relative to the longitudinal axis against an axial outer circumferential contact surface extending at a corresponding acute angle relative to the longitudinal axis and about an axial outer surface portion of the first cover component to secure the first cover component in the housing with the first cover component sealing the first longitudinal end of the housing closed. The second longitudinal end of the housing is sealed closed.

By performing the method in this manner, the piston accumulator is formed and sealed in a reliable operation that is simple and inexpensive to perform. The deforming of the end portion at an acute angle is particularly simplified by the accumulator housing deformation being at a free end and against an exposed axial surface of the cover component to simplify the operation and the tooling necessary for this deformation.

Claims 11, 12, 14-16, 24 and 25 stand rejected under 35 U.S.C. §102 as being anticipated by the newly cited U.S. Patent No. 5,311,910 to Hasegawa. The Hasegawa patent is cited for a

method for producing a piston accumulator in which a cover component 5 is at least partially inserted within housing 1a through a first longitudinal end when open until an inner surface portion 5c of the first cover engages housing shoulder 1b, and then deforming the first end of housing 1a between first shoulder 1b and the first longitudinal end at an acute angle relative to the longitudinal axis. Fig. 4b is apparently relied upon for showing a forming tool 10 deforming at an acute angle onto the housing 1a against an axial outer contact surface extending at a correspondingly acute angle relative to the longitudinal axis and about an outer surface portion of cover component 5. The second longitudinal end of the housing is allegedly sealed. Relative to claim 12, the housing end is alleged to be deformed substantially flush. Relative to claim 14, the cover allegedly tapers outward. Relative to claim 15, the Hasegawa shaping tool is allegedly forced axially. Relative to claim 16, point 1b is allegedly a transition point of different wall thicknesses of the Hasegawa housing. Relative to claim 24, housing 1a is alleged to act as an insertion bevel widening toward the exterior. Relative to claim 25, the cover component has a height twice of the height of the deformed section.

Claims 13 and 17 stand rejected under 35 U.S.C. §103 as being unpatentable over the Hasegawa patent in view of U.S. Patent Publication No. 2004/0238054 to Weber. The Weber patent publication is cited for teaching a projection 21 and an insertion bevel on the housing that guides cover component in the housing, which features are alleged to be obvious to add to the Hasegawa accumulator.

Claims 18-22 and 26-30 stand rejected under 35 U.S.C. §103 as being unpatentable over the Hasegawa patent. In support of these rejections, it is contended that it would be obvious to form the second end of the accumulator housing in the same manner as the first end described

above, to form both ends simultaneously, and to deform the first end portion of an obtuse angle. The Hasegawa deformed section 5a is alleged to extend directly from its first longitudinal end 1a in Fig. 5.

Claim 23 stands rejected under 35 U.S.C. §103 as being unpatentable over the Hasegawa patent in view of Japanese Patent No. 03092679A to Masanobu. The Masanobu patent is cited in connection with a positioning tool for positioning the cover in the housing, which the Examiner contends would be obvious to use in the Hasegawa system.

Claim 11 is patentably distinguishable over the Hasegawa patent by reciting that the deformation is against a cover component contact surface extending in an acute angle (i.e., an angle less than 90 degrees) relative to its longitudinal axis. In contrast, as clearly shown in Figs. 1-4b, the Hasegawa stepped contact surfaces are perpendicular to the longitudinal axis, and are not at an acute angle. Thus, reconsideration and withdrawal of the rejection of claim 11 is requested.

Claims 12-28 being dependent upon claim 11, are also allowable for the above reasons. Moreover, these dependent claims recite additional features further distinguishing them over the cited patents.

Claim 12 is further distinguishable by the end edge of the first longitudinal end being deformed to be substantially flush with the outer surface portion. No such flush arrangement appears to be disclosed in the Hasegawa patent.

Claim 13 is further distinguishable by the projection extending axially from the outer surface portion of the first cover component. The Weber patent publication is cited for this feature. However, the Weber patent publication is not prior art that can be cited against the

claims of this application. The December 4, 2004 patent publication date is subsequent to both the January 15, 2004 effective filing date of this application and its February 1, 2003 priority date. Since the International application upon which the Weber patent publication is based was in German, not in English, the July 18, 2000 PCT filing date cannot be relied upon (35 U.S.C. §102(e)). The International application on which the Weber patent publication is based was also not published until February 27, 2003, that is, after the February 1, 2003 priority date for this application.

Moreover, since the subject matter of the Weber patent publication and this application are commonly owned, such publication would not appear to be properly cited under 35 U.S.C. §103(c) on the ground that both were commonly owned when the respective inventions were made. Since the Weber patent publication does not qualify as “prior art” under 35 U.S.C. §102, this rejection should be withdrawn.

Claim 14 is further distinguishable by the outer cover component tapering along the contact surface, which is an outer axial surface. No such tapering surface in the Hasegawa patent is axial and outer, as claimed. The Hasegawa contact surface is either perpendicular or parallel to the longitudinal axis on the cover component. The Hasegawa surface 5c is not the contact surface for receiving the deformed portion, and that surface tapers (reduces in size) toward the inside, not toward the outside, as claimed.

Claim 15 is further distinguishable by the deforming being formed by axially forcing a first shaping tool against and over the first longitudinal edge with a positioning bevel engaging the first end portion. None of the cited patents disclose or render obvious this deformation by the claimed axial forcing of the shaping tool. The Hasegawa lateral staking member 10 is only

disclosed to move radially, as shown by the arrow in Fig. 4A and the description of being forced “radially inwardly” in column 3, lines 50-51, not axially.

Claim 16 is further distinguishable by the reduced wall thickness and the transition forming the shoulder within the overall claimed combination.

Claim 17 is further distinguishable by the insertion bevel 50 extending from the free end edge of the housing. Relative to the insertion bevel, the Weber patent publication is cited. However, such citation is improper for the reasons noted above.

Claim 18 is further distinguishable by the sealing of the second longitudinal end in the same manner as the first longitudinal end. Such sealing of the second longitudinal end is thus distinguishable by the features of claim 11 being also applied to the second end of the housing. Such dual sealing is not obvious from the Hasegawa patent, as alleged.

Claim 19 is further distinguishable by the second end being formed by an axially movable shaping tool. As noted above, none of the cited patents discloses such second axial shaping tool.

Claim 20 is further distinguishable for the same reasons advanced above relative to claim 18.

Claims 21 and 22 are further distinguishable by the first and second end portions being simultaneously deformed. No such simultaneous deformation of end portions is disclosed or rendered obvious by the cited patents.

Claim 23 is further distinguishable by use of a position tool with a feed bevel. The Masanobu part 13 is not shown to meet the limitations of claim 23, since its function is not clear from the drawings or the partial translation provided.

Claim 24 is further distinguishable in the guiding of the first cover component by an insertion bevel at a free end edge of the first longitudinal edge portion. The Hasegawa patent relied upon for the feature does not have an insertion bevel, particularly in combination with a stop and located at a free end edge.

Claims 25 and 26 are further distinguishable by the relative heights of the cover component or components relative to the deformed sections of the housing.

Claim 27 and 28 are further distinguishable by the deformed section or sections being at an obtuse angle.

In view of the foregoing, claims 11-30 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



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